

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 86-18

NPDES NO. CA0028525

WASTE DISCHARGE REQUIREMENTS FOR:

SHELL OIL COMPANY
MARTINEZ MANUFACTURING COMPLEX
CHEMICAL OPERATIONS EAST
PITTSBURG, CONTRA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

1. Shell Oil Company, Martinez Manufacturing Complex, Chemical Operations East (hereinafter called the discharger) filed an application dated January 17, 1985 for waste discharge requirements and a permit to discharge waste under the National Pollutant Discharge Elimination System (NPDES). The application was supplemented by a submittal dated March 19, 1985.
2. The discharger manufactures dehydrogenation and hydrotreating catalysts and produces approximately 31,000 gallons per day of non-contact cooling water. This waste together with some stormwater runoff (together referred to as Waste 001) is discharged into a ditch tributary to Suisun Bay.
3. In addition to Waste 001, the discharger also occasionally discharges non-contact cooling water (Waste 002) from test runs of the old impregnation plant tumbler cooling system. The duration of this discharge varies from a few days to several weeks. Waste 002 is discharged into the same ditch that conveys Waste 001 but at a location downstream of Waste 001.
4. The discharge is presently governed by Waste Discharge Requirements, Order No. 80-29 which allow discharge into Suisun Bay.
5. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on July 21, 1982. The Basin Plan contains water quality objectives for Suisun Bay and contiguous waters.
6. The beneficial uses of Suisun Bay and contiguous water bodies are:
 - a. Water contact recreation
 - b. Non-contact water recreation
 - c. Wildlife Habitat
 - d. Preservation of Rare and Endangered Species
 - e. Estuarine Habitat

- f. Fish migration and spawning
 - g. Industrial service supply
 - h. Navigation
 - i. Commercial and Sport Fishing
7. The Basin Plan prohibits the discharge of any wastewater which has particular characteristics of concern to beneficial uses at any point which does not receive a minimum initial dilution of at least 10:1 or into any nontidal water or deadend slough or similar confined water areas or their immediate tributaries. The receiving waters for this discharge constitutes a confined area similar to a deadend slough.
 8. The Board finds that the discharge of waste from the discharger contains only negligible amounts of pollutants and has no particular characteristics of concern to beneficial uses. Therefore, the Basin Plan prohibition does not apply to this waste discharge.
 9. The State Board adopted a revised Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan) on September 18, 1975. The temperature limitations contained in this Order for the cooling water discharge are in accordance with the Thermal Plan.
 10. Effluent limitations and toxic effluent standards established pursuant to Section 301, 304, and 307 of the Clean Water Act and amendments thereto are applicable to the discharge.
 11. Effluent limitation guidelines requiring the application of best available technology economically achievable (BAT) for this point source category have not been promulgated by the U.S. Environmental Protection Agency. Effluent limitations in this Order are based on the Basin Plan, State plans and policies, current plant performance, and best engineering judgement. The limitations are considered to be those attainable by BAT, in the judgement of the Board.
 12. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21000 of Division 13) of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.
 13. The Board has notified the discharger and interested agencies and persons of its intent to reissue waste discharge requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
 14. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED THAT Shell Oil Company, Martinez Manufacturing Complex, Chemical Operations East in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibition

The discharge of process waste, cooling water containing water treatment additives and catalysts is prohibited.

B. Effluent Limitations

1. Waste 001 and Waste 002 combined shall not exceed the following limits:

<u>Constituents</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Maximum Daily</u>
Total Suspended Solids	mg/l kg/day	20 2.35	30 3.52
Oil and Grease	mg/l kg/day	10 1.18	20 2.35
Total Chromium	mg/l kg/day	0.05 0.008	0.10 0.016
Hexavalent Chromium	mg/l kg/day	0.005 0.0008	0.01 0.0016
Copper	mg/l kg/day	0.2 0.038	0.3 0.057
Nickel	mg/l kg/day	0.1 0.019	0.2 0.038
Zinc	mg/l kg/day	0.3 0.057	0.5 0.098

2. The pH of the discharge shall not exceed 8.5 nor be less than 6.5.
3. The maximum temperature of the discharge shall not exceed the ambient receiving water temperature by more than 20 F nor shall it exceed 86 F.
4. In any representative set of samples, the waste as discharged shall meet the following limit of quality:

TOXICITY: The survival of test fishes in 96 hour bioassays of the effluent as discharged shall be a median of 90% survival and a 90 percentile value of not less than 70% survival.

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:
 - a. Floating, suspended, or deposited macroscopic particulate matter or foam;
 - b. Bottom deposits or aquatic growths;
 - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
 - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
 - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.
2. The discharge of waste shall not cause the following limit to be exceeded in waters of the State in any place within one foot of the water surface:
 - a. pH Variation from natural ambient pH
by more than 0.5 pH units.
3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. Provisions

1. The requirements prescribed by this Order supersede the requirements prescribed by Order No. 80-29 adopted on May 20, 1980. Order No. 80-29 is hereby rescinded.
2. The discharger shall comply with all sections of this Order immediately upon adoption.

3. In order to prevent or minimize the potential for the release of toxic substances or other materials deleterious to water quality from ancillary activities to waters of the United States, through plant runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage, the discharger shall develop and implement a Best Management Practices (BMP) plan.


The BMP plan shall be consistent with the general guidance contained in the U. S. Environmental Protection Agency publication "NPDES Best Management Practices Guidance Document", by the Office of Water Enforcement and Permits, NPDES Technical Support Branch, June 1981.

The plan shall be submitted to the Executive Officer for approval within six months of the adoption of this permit. The plan shall be implemented within twelve months of the adoption of this permit.

4. The discharger shall review and update annually its contingency plan as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or implement a contingency plan will be basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.
5. The discharger shall comply with the self-monitoring program as adopted by the Board and as may be amended by the Executive Officer.
6. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated April 1977, except items A.5, B.2, and B.5.
7. All applications, reports, or information submitted to the Regional Board shall be signed and certified pursuant to Environmental Protection Agency regulation (40 CFR 122.41K).
8. Pursuant to Environmental Protection Agency regulations [40 CFR 122.42(a)] the discharger must notify the Regional Board as soon as it knows or has reason to believe (1) that they have begun or expect to begin, use or manufacture of a pollutant not reported in the permit application, or (2) a discharge of a toxic pollutant not limited by this permit has occurred, or will occur, in concentrations that exceed the specified limits.
9. This order expires March 19, 1991. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

10. This Order shall serve as National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Roger B. James, Executive Officer do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on March 19, 1986.


ROGER B. JAMES
Executive Officer

Attachments:
Standard Provisions & Reporting
Requirements, April 1977
Self Monitoring Program
Resolution 74-10

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

Shell Oil Company, Martinez Manufacturing

Complex, Chemical Operations East

Pittsburg, Contra Costa County

NPDES NO. CA 0028525

ORDER NO. 86-18

CONSISTS OF

PART A, dated January 1978

AND

PART B

PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. Effluent

<u>Station</u>	<u>Description</u>
E-001	At the point of discharge of Waste 001 into the ditch where all waste tributary to that outfall is present.
E-002	At the point of discharge of Waste 002 into the ditch where all waste tributary to that outfall is present.

B. Receiving Waters

<u>Station</u>	<u>Description</u>
C-1	Located along the perimeter of station E-001.
C-2	Located along the drainage ditch 60 feet downstream of station E-001.
C-3	Located along the perimeter of station E-002.
C-4	Located along the drainage ditch 60 feet downstream of station E-002.

II. SCHEDULE OF SAMPLING AND ANALYSIS REPORTING

- A. The schedule of sampling and analysis shall be that given in Table I.
- B. Written reports shall be filed regularly for each calendar quarter by the fifteenth day of the following month.

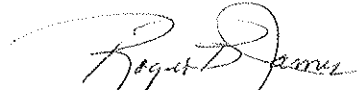
III. MODIFICATIONS OF PART A

Delete: C.3, C.4, and D.3.

I, Roger B. James, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

- 1. Has been developed in accordance with the procedure set forth in this Regional Board Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 86-18.

2. Is effective on the date shown below.
3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.


ROGER B. JAMES
Executive Officer

Effective Date MARCH 27, 1986

Attachments:
Table I

TABLE 1
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	E-001	C-1 & C-2	E-002	C-3 & C-4
TYPE OF SAMPLE	C-X G	G O	C-X G	G O
Flow Rate (mgd)	(1)		(1,2)	
BOD, 5-day, 20°C, or COD (mg/l & kg/day)				
Chlorine Residual & Dosage (mg/l & kg/day)				
Settleable Matter (ml/1-hr. & cu. ft./day)				
Total Suspended Matter (mg/l & kg/day)	Q		Q ⁽²⁾	
Oil and Grease (mg/l & kg/day)	Q		Q ⁽²⁾	
Coliform (Total or Fecal) (MPN/100 ml) per req't				
Fish Tox'y 96-hr. TL % Surv'l in undiluted waste	Q			
Ammonia Nitrogen (mg/l & kg/day)				
Nitrate Nitrogen (mg/l & kg/day)				
Nitrite Nitrogen (mg/l & kg/day)				
Total Organic Nitrogen (mg/l & kg/day)				
Total Phosphate (mg/l & kg/day)				
Turbidity (Jackson Turbidity Units)				
pH (units)	W M		W ⁽²⁾ M ⁽²⁾	
Dissolved Oxygen (mg/l and % Saturation)				
Temperature (°C)	W M		W ⁽²⁾ M ⁽²⁾	
Apparent Color (color units)				
Secchi Disc (inches)				
Sulfides (if DO<5.0 mg/l) Total & Dissolved (mg/l)				
Arsenic (mg/l & kg/day)				
Cadmium (mg/l & kg/day)				
Chromium, Total (mg/l & kg/day)	Q		Q ⁽²⁾	
Copper (mg/l & kg/day)	Q		Q ⁽²⁾	
Cyanide (mg/l & kg/day)				
Silver (mg/l & kg/day)				
Lead (mg/l & kg/day)				

TABLE 1 (continued)												
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS												
Sampling Station	E-001		C-1 & C-2		E-002		C-3 & C-4					
TYPE OF SAMPLE	C-X	G	G	O	C-X	G	G	O				
Mercury (mg/l & kg/day)												
Nickel (mg/l & kg/day)		Q				Q ⁽²⁾						
Zinc (mg/l & kg/day)		Q				Q ⁽²⁾						
Phenolic Compounds (mg/l & kg/day)												
All Applicable Standard Observations				Q				Q ⁽²⁾				
Bottom Sediment Analyses and Observations												
Total Ident. Chlor. Hydro- carbons (mg/l & kg/day)												
Hexavalent Chromium (mg/l & kg/day)		M				M ⁽²⁾						

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample
 C-24 = composite sample - 24-hour
 C-X = composite sample - X hours
 (used when discharge does not
 continue for 24-hour period)
 Cont = continuous sampling
 DI = depth-intergrated sample
 BS = bottom sediment sample
 O = observation

TYPES OF STATIONS

I = intake and/or water supply stations
 A = treatment facility influent stations
 E = waste effluent stations
 C = receiving water stations
 P = treatment facilities perimeter stations
 L = basin and/or pond levee stations
 B = bottom sediment stations
 G = groundwaters stations

FREQUENCY OF SAMPLING

E = each occurrence
 H = once each hour
 D = once each day
 W = once each week
 M = once each month
 Y = once each year

2/H = twice per hour
 2/W = 2 days per week
 5/W = 5 days per week
 2/M = 2 days per month
 2/y = once in March and
 once in September
 Q = quarterly, once in
 March, June, Sept.
 and December

2H = every 2 hours
 2D = every 2 days
 2W = every 2 weeks
 3M = every 3 months
 Cont = continuous

NOTES

- (1) The discharge rate may be based on water usage rates determined from meters. The calculated average daily flow rate shall be used to determine mass loading values.

NOTES (cont.)

- (2) The old impregnation plant tumbler cooling water shall be sampled at least once during each discharge occurrence, and shall be sampled according to the frequency noted in Table 1 if discharge continues beyond one week.